APP 1400

WHAT IS CLAIMED IS:

1. A unitary Bluetooth-enabled terminal comprising:

at least two radio interfaces through which data may be transmitted; and

means coupled to the respective radio interfaces for individually effecting collision free transmission of the data in successive time slots.

2. A terminal as defined in claim 1 wherein said transmission effecting means comprises means for generating separate channel hopping patterns that exhibit mutually exclusive frequency hops in successive time slots.

3. A terminal as defined in claim 2, in which the time slots of the respective channel hopping patterns are synchronized.

4. A terminal as defined in claim 2, in which the transmission effecting means comprises means for extracting corresponding segments of the respective channel hopping patterns that occur over a selectable number of successive future time slots.

5. A terminal as defined in claim 4, in which the transmission effecting means further comprises means for detecting, within the selectable number of future time slots, a first future time slot in which the frequency hops of the corresponding segments coincide.

6. A terminal as defined in claim 5, in which the transmission effecting means further comprises means coupled to the detecting means for altering the frequency hop(s) normally exhibited by a subset of the channel hopping patterns during the first future time slot.

7. A multiple interface, Bluetooth-enabled terminal, which comprises:

a core;

a plurality of radio interfaces associated with the core for individually supporting radio modules adapted to transmit frequencies within a band defined by Bluetooth protocols;

means for modulating the frequencies transmitted by the respective radio modules with separate channel hopping patterns exhibiting frequency hops in successive time slots;

means coupled to the modulating means for predicting a first future time slot when the frequency hops of the respective channel hopping patterns will coincide; and

means coupled to the predicting means for altering the frequency hop(s) exhibited by a subset of the channel hopping patterns during the first future time slot.

8. A terminal as defined in claim 7, in which the predicting means comprises means for extracting corresponding segments of the respective channel hopping patterns that occur over a selectable number of successive future time slots.

9. A terminal as defined in claim 8, in which the predicting means further comprises means for detecting, within the selectable number of future time slots, a first future time slot in which the frequency hops of the corresponding extracted segments coincide.

10. A terminal as defined in claim 9, in which the altering means comprises means for applying the output of the detecting means to the modulating means.

11. A Bluetooth-enabled access point, which comprises:

a core;

a first interface associated with the core for supporting communication with a backbone network;

a second interface associated with the core for individually supporting radio modules adapted to transmit frequencies within a band defined by Bluetooth protocols; and

means for modulating the frequencies transmitted by the respective radio modules with separate Bluetooth channel hopping patterns exhibiting frequency hops in successive time slots.

12. The access point of claim 11 further comprising means coupled to the modulating means for predicting a first future time slot when the frequency hops of the respective channel hopping patterns will coincide.

13. The access point of claim 12 further comprising means coupled to the predicting means for altering the frequency hop(s) exhibited by a subset of the channel hopping patterns during the first future time slot.

14. An access point as defined in claim 13, in which the predicting means comprises means for extracting corresponding segments of the respective channel hopping patterns that occur over a selectable number of successive future time slots.

15. An access point as defined in claim 14, in which the predicting means further comprises means for detecting, within the selectable number of future time slots, a first future time slot in which the frequency hops of the corresponding extracting segments coincide.

16. An access point as defined in claim 15, in which the altering means comprises means for applying the output of the detecting means to the modulating means.

17. A method for transmitting data from a plurality of radio interfaces co-located in a single device to control a plurality of Bluetooth-enabled elements, said method comprising:

extracting corresponding segments of channel hopping patterns that occur over a selectable number of successive future time slots;

comparing the corresponding extracted segments to detect, within the selectable number of future time slots, a first future time slot(s) in which the frequency hops of the respective corresponding segments coincide; and

altering the frequency hop(s) normally exhibited by a subset of the channelhopping patterns during the first future time slot(s).

18. A method as defined in claim 17, in which the altering step comprises muting the transmission of the subset of channel hopping patterns over the first future time slot(s).

19. A method as defined in claim 17, in which the channel hopping patterns on the respective paths each exhibit a packet size equal to a selectable number of time slots, and in which the altering step comprises changing the packet size on the subset of the channel hopping patterns.

20. For use in a system for effecting packet communication over at least a pair of separate transmission paths each adapted to connect separate Bluetooth-enabled elements, the paths being respectively implemented to transmit packets in independent channel hopping patterns that exhibit quasi-random frequencies in successive time slots, the respective patterns each having a packet size equal to a selectable number of time slots, a method of avoiding transmission interference between the paths, which comprises the steps of:

extracting corresponding segments of the respective channel hopping patterns that occur over a selectable number of successive future time slots;

comparing the corresponding extracted segments to detect, within the selectable number of future time slots, a first future time slot(s) in which the frequency hops of the corresponding segments coincide; and

changing the size(s) of the packets on a subset of the paths.

21. A method as defined in claim 20, in which the packet size changing step is implemented prior to the occurrence of the first future time slot(s).

22. A Bluetooth-enabled terminal for effecting low-interference packet communication,, which comprises:

a core;

at least a pair of radio interfaces associated with the core for independently supporting Bluetooth radio modules;

an adjustable baseband controller coupled to the respective interfaces for effecting packet transmission from the associated radio modules in independent channel hopping patterns in which the packets exhibit quasi-random frequencies in successive time slots;

means for replicating corresponding segments of the respective channel hopping patterns that occur over a selectable number of successive future time slots;

means for detecting, within the selectable number of future time slots, a first future time slot(s) in which the frequency hops of the corresponding segments coincide; and

means for altering the channel hopping pattern(s) from a subset of the radio modules over the first future time slot(s).

23. A terminal as defined in claim 22, in which the altering means comprises means for muting transmission of packets from the subset of radio modules over the first future time slot(s).

24. A terminal as defined in claim 22, in which the channel hopping patterns exhibit a packet size equal to a selectable number of time slots, and in which the terminal further comprises means for changing the size of the packets transmitted by the subset of radio modules.